

**Liens entre les dimensions socio-comportementales à la
maternelle et la réussite scolaire ultérieure**

**Links between Socio-Behavioral Functioning in
Kindergarten and Later School Success**

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School Readiness ...of the Child (Préparation à l'école)

Cognitive Dimensions

- Cognitive and linguistic skills
- Pre-reading and pre-math skills

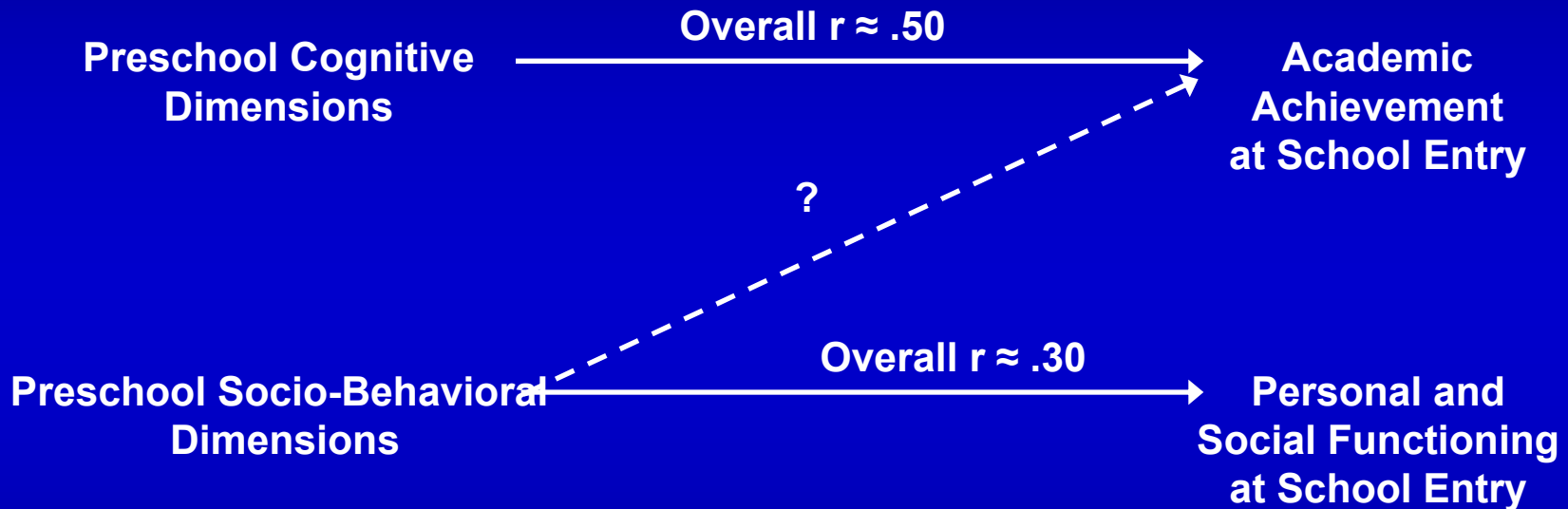
Socio-Behavioral Dimensions

- Cognitive Self-regulation (i.e., **hyperactivity, inattention, impulsivity**)
- Behavioral Self-regulation (i.e., **aggression, opposition**)
- Emotional Self-regulation (i.e., **anxiety, depressive feelings**)
- Social skills (i.e., **positive relationships with others, social problem solving**)

Objective

- Are the Socio-behavioral dimensions as important for school success as the cognitive dimensions?

Meta-analysis of 70 studies (La Paro & Pianta, 2000)



Predicting High School Completion (N = 4,340)¹

Kindergarten Teacher- or Parent-rated Measures

Odds Ratio for Non Completion by Age 20

1. Socio-Family Adversity (H vs. L)	3.9**
2. Child's Gender (M vs. F)	2.4**
3. Hyperactivity-Inattention (H vs. L)	3.4**
4. Aggression-Opposition (H vs. L)	1.3*
5. Prosocial Skills (L vs. H)	1.4*
6. Anxiety-Social Withdrawal (H vs. L)	1.1 (NS)
7. Parent Discipline (L vs. H)	1.3*

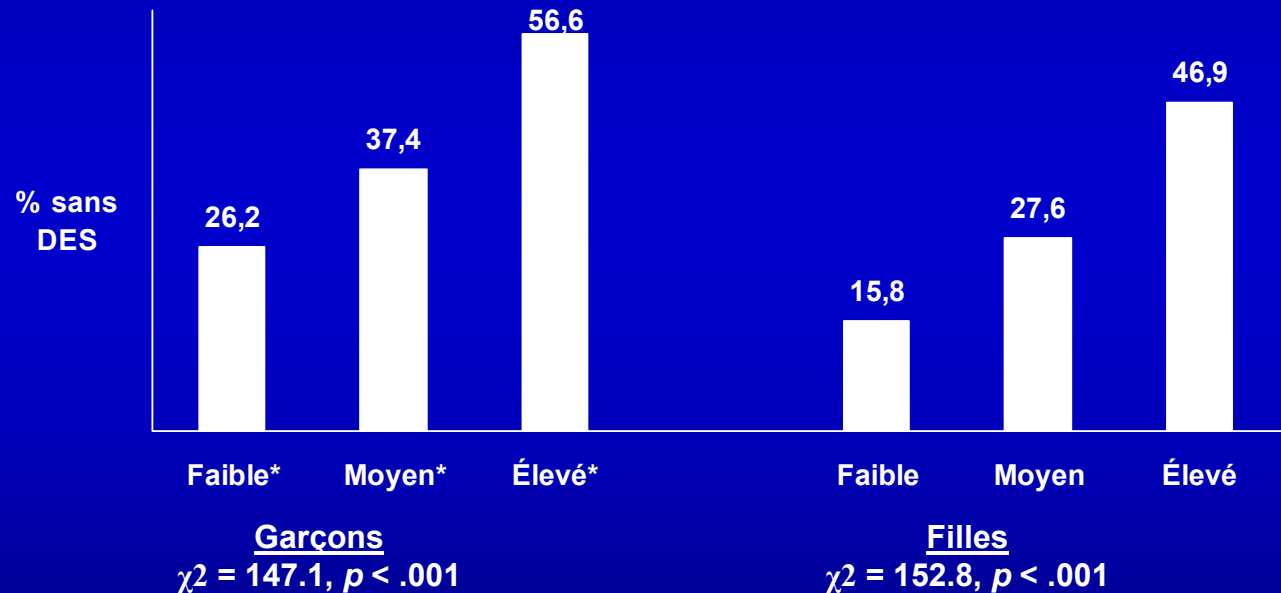
Note: (3 + 4 + 5 = 6.1) \approx (1 + 2 = 6.3)

¹ Étude longitudinale des enfants de maternelle (ÉLEM)

Vitaro, Brendgen, Larose & Tremblay (2003). *Journal of Educational Psychology*.

Profil de comportements perturbateurs¹ à la maternelle selon l'enseignante et non diplomation à l'âge de 20 ans N = 4330

x



Note: 17 items d'agressivité, d'hyperactivité, d'opposition et d'inattention; chaque item coté 0, 1 ou 2

*Faible: cote 0 ou 1 sur 34 (595 garçons et 969 filles)

*Moyen: cote 2, 3, 4, 5 ou 6 sur 34 (720 garçons et 689 filles)

*Élevé: cote 7 et plus sur 34 (923 garçons et 444 filles)

Micro Meta-Analysis of 6 data sets Duncan et al. (2007)

Cognitive Dimensions in Kindergarten

- a) Math Skills
- b) Reading Skills

$r = .34^*$
 $r = .17^*$

Socio-Behavioral Dimensions in Kindergarten

- a) Attention Problems
- b) Aggression-opposition
- c) Anxiety-withdrawal
- d) Interpersonal Social Skills

$r = .10$

$r = .00$

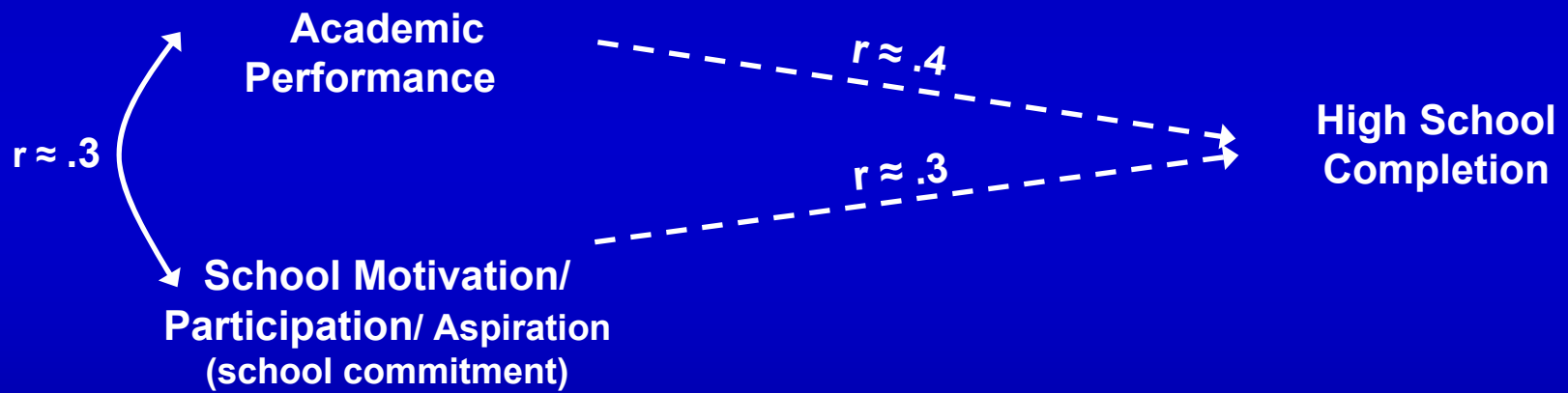
$r = .00$

$r = .00$

Academic
Performance in
Primary School

Note: a) Interactions with gender were possibly overlooked
b) Only academic performance was considered

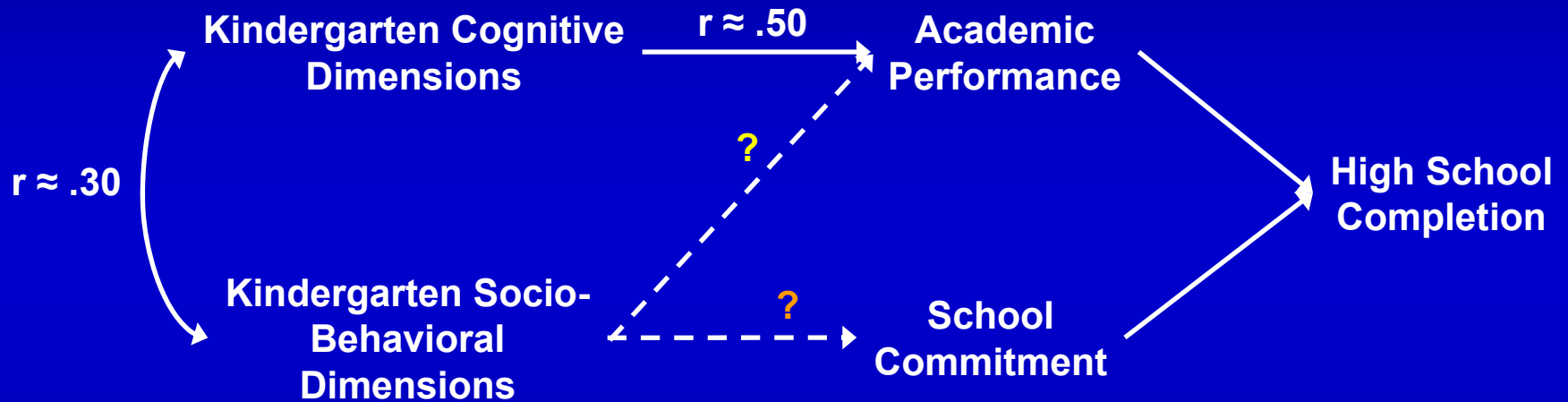




Preschool

Primary School

High School



Predicting School Performance and School Commitment from Kindergarten Measures (N = 906)¹

Kindergarten Measures

Outcome Measures (Mean grades 1, 2, & 4)

	<u>Academic performance</u>	<u>School commitment</u>
1. Family SES	-.07*	-.11*
2. Child's Gender	NS	-.15**
3. Cognitive/linguistic abilities (EDI) ²	.46**	.29**
4. Hyperactivity-inattention	-.23**	-.20.**
5. Aggression-opposition	-.12* (Boys only)	-.27** (Boys only)
6. Anxiety-Withdrawal	NS	-.06†
7. Prosocial Skills	NS	.15*

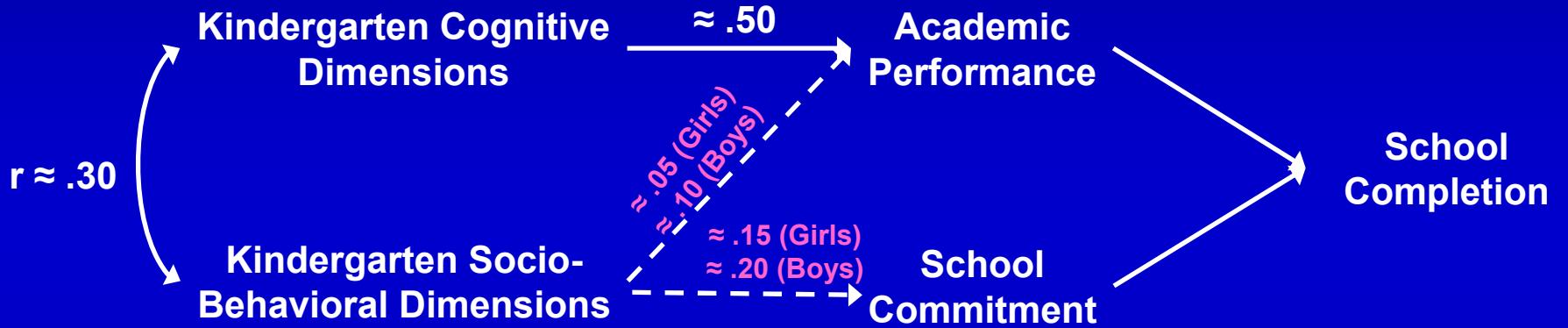
¹ Étude longitudinale du développement des enfants du Québec (ÉLDEQ)

² Early Development Instrument (Janus & Offord, 2007)

Preschool

Primary School

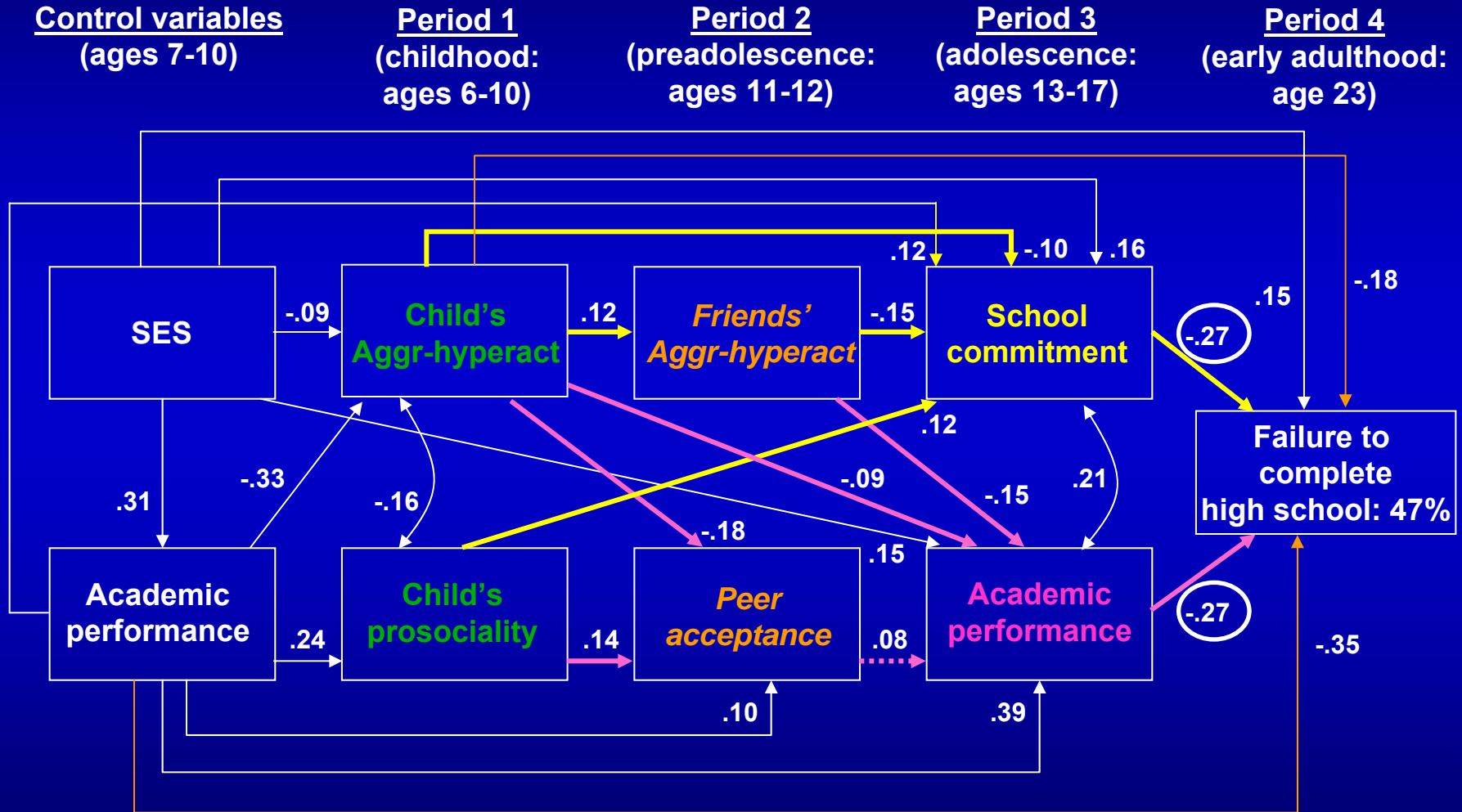
High School



Mediating Processes?

- In search of inter- and intra-personal processes (i.e., mediators) linking socio-behavioral dimensions to academic performance or school commitment

Pathways linking early behavior problems to later failure to complete high school (N = 1034 Low SES Boys)¹



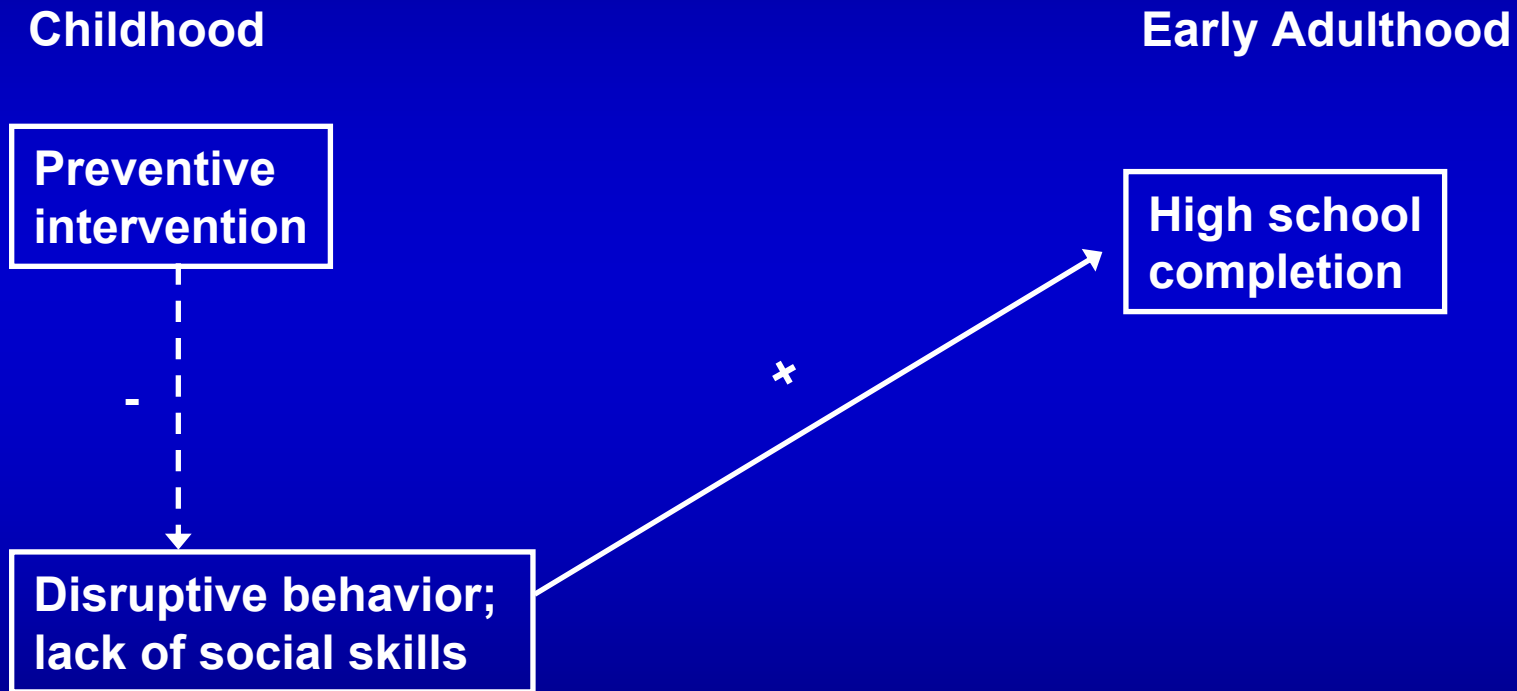
¹ Étude longitudinale-expérimentale de Montréal (ÉLEM)

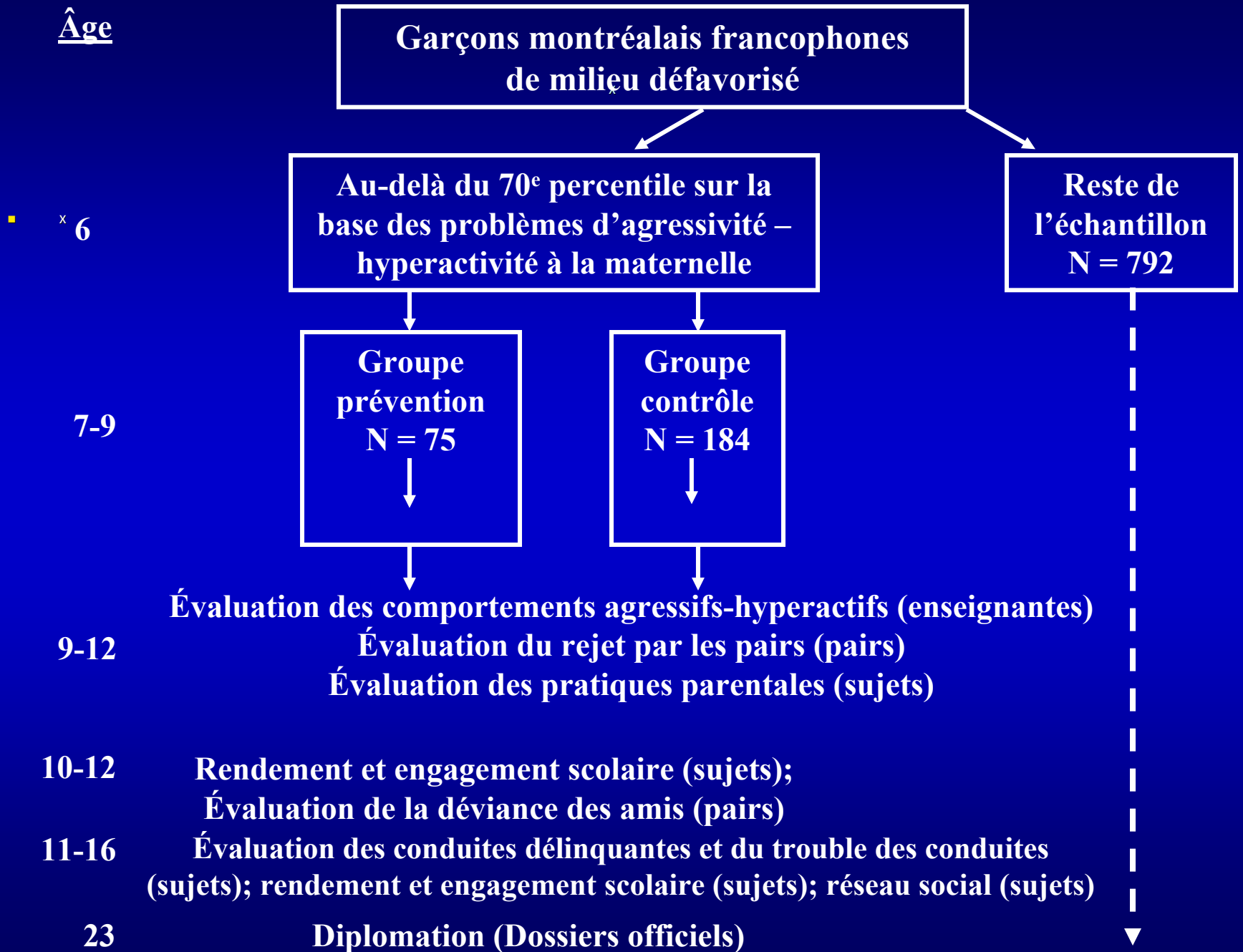
Véronneau, Vitaro, Pedersen, & Tremblay (2008). *Journal of Educational Psychology*

Other Possible Mediators/Moderators

- Friendships
- Teacher-child relationship
- Parent-child relationship
- Extra-curricular activities

Testing the “Causal” Role of Early Disruptiveness (and Related Social Experiences) in regard to High School Completion through the Use of a Preventive Intervention





Method

Preventive intervention

- **Duration: 2 years, from age 7 through age 9**
- **Components**
 - **Parent training (17 home visits, on average)**
 - **Focus on positive behaviors**
 - **Differential reinforcement of positive behaviors**
 - **Firm affectionate discipline**
 - **Problem solving skills**
 - **Social and social-problem solving skills (19 group format sessions at school, involving a majority of no problem children; number of participants in the group sessions: between 4 and 7)**
 - **Modeling, coaching**
 - **Role play, positive reinforcement**
 - **Behavior management of the target's child problem behavior in the classroom (regular contact with the teacher)**

Method

Measures

■ Potential mediators

– In early adolescence (10 to 13 years of age):

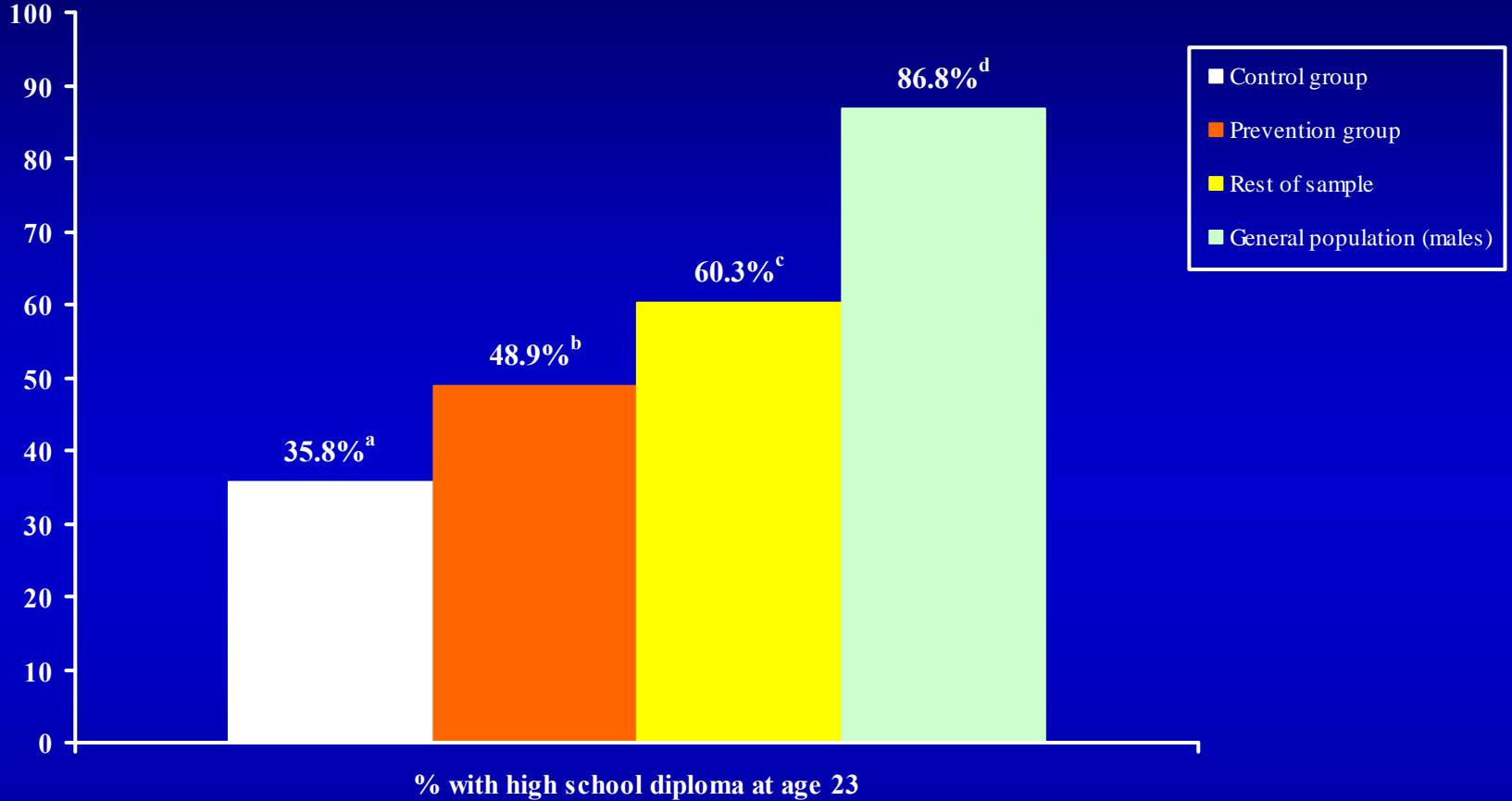
- School performance
- Parental discipline; parental affection
- Friends' deviancy/conformism
- Disruptiveness

– In middle adolescence (14 to 17 years of age):

- School commitment
- Parental discipline; parental support
- Gang membership
- Conduct disorder/delinquency

■ Outcome measure (official records by 23 years of age)

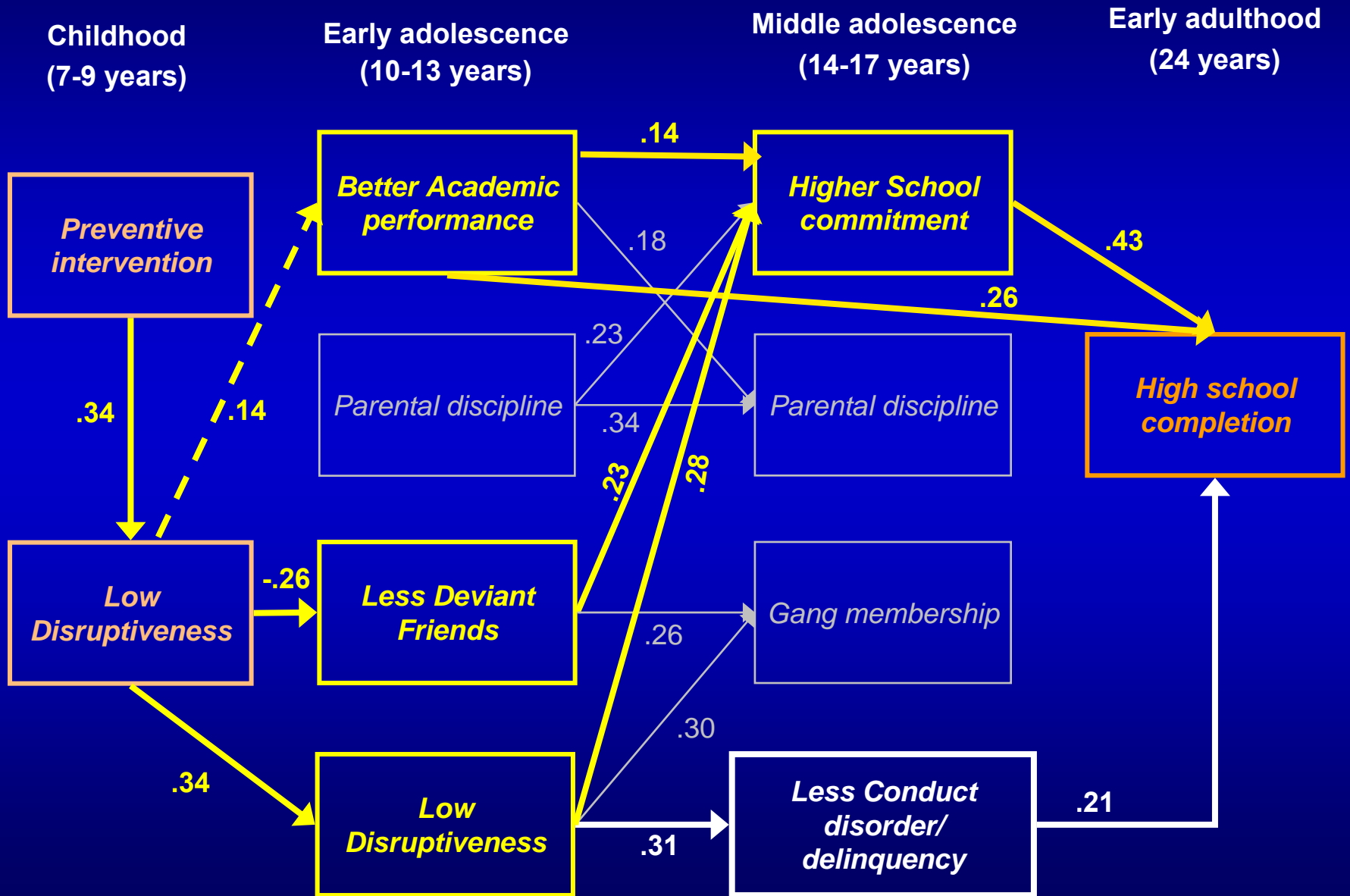
- High school diploma



OR (intervention vs. control) = 2.19, $p < .05$

NOTE: Different letters indicate a significant difference

Mediating Pathways of Intervention Effects on High School Completion



Conclusions

- 1- Socio-behavioral dimensions in kindergarten do matter in regard to high school completion, in particular hyperactive-inattentive behaviors and, to a lesser degree, aggressive-oppositional behaviors and lack of social skills
 - a) They contribute modestly to school performance (for boys) but importantly to school commitment which, in turn, contribute almost equally to high school completion
 - b) Peer experiences play mediating/moderating/additive role in this context
 - c) Quality of teacher-child relationship also plays a mediating/moderating/additive role
 - c) Finally, parent discipline and involvement also plays a mediating/moderating/additive role
- 2- Improving socio-behavioral deficits/problems with a prevention program delivered in kindergarten positively impacted academic achievement and high school completion
- 3- The results would have been probably stronger if a school readiness cognitive component was added to the prevention program, but not in a universal format to avoid a Matthew effect (Ceci & Papierno, 1995).

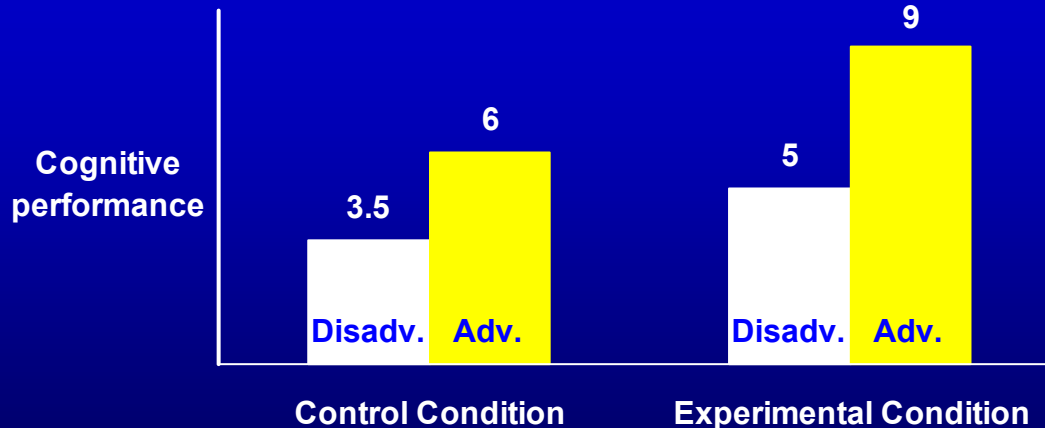


Fig. Illustration of a Matthew effect